

Abstract of the Disclosure

HYDRAULIC CIRCUIT HAVING PRESSURE  
EQUALIZATION DURING REGENERATION

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A fluid system is provided wherein two different fluid circuits are connected in parallel with a single source of pressurized fluid and the two fluid circuits can function together even when one of the loads is lighter than the other. This is accomplished by having the lightly loaded circuit having a directional control that when operated in one of its operative positions the flow from the rod end of the cylinder is directed through the directional control valve and combined with the supply flow being directed to the head end of the cylinder. With the other heavier loaded circuit also being actuated, the pressure of the fluid from the rod end of the fluid cylinder is equalized with the pressure of the heavier loaded circuit. Consequently, the speed of the heavier loaded circuit does not stall or slow down relative to the lightly loaded circuit. In the case of a machine having a bucket used for backdragging, the circuit needs a diverter system that provides protection from the cylinder rod of the fluid cylinder from buckling during backdragging while maintaining the ability for pressure equalization when not performing a backdragging operation.

30 99-1204cip application 120699 (domino)